

Appendix Y Drinking Water Regulations

January 16, 2003

Gene Lynard P - KEC-4
Bonneville Power Administration
905 N.E. 11th Avenue
P.O. Box 3621
Portland, Oregon 97208-3621

**RE: DRINKING WATER REGULATIONS, KANGLEY-ECHO LAKE
TRANSMISSION LINE ALTERNATIVE ROUTES, KING COUNTY,
WASHINGTON**

Dear Gene

Per your request, we are providing a summary of drinking water regulations that may affect construction of the Bonneville Power Administration's (BPA's) proposed transmission line alignment. Alignment alternatives cross the City of Seattle's Cedar River Municipal Watershed and both the City of Kent's and the Covington Water District's wellhead protection areas (WHPA). Shannon & Wilson prepared two reports for BPA to use in preparation of their environmental impact statement for this project. These reports are "Bonneville Power Administration Kangley-Echo Lake Transmission Line Project Geology, Soil, Climate and Hydrology Technical Report," dated January 2001, and "Bonneville Power Administration Kangley-Echo Lake Transmission Line Project Geology, Soil, Climate and Hydrology Additional Alternatives Technical Report," dated October 2002. The January 2001 report addressed transmission alignment alternatives 1, 2, 3, 4A, and 4B that traverse through the Cedar River Municipal Watershed. The October 2002 report addressed transmission alignment alternatives A, B, C, and D. Alternatives A and C traverse through the City of Kent's and Covington Water District's WHPA.

The Cedar River Municipal Watershed is an unfiltered source of drinking water for Seattle and several suburban cities. Seattle Public Utilities (SPU) operates this water system. The City of Kent and the Covington Water District share several of the same groundwater sources that

supply drinking water to public wells and are developing wellhead protection programs (WHPP) to protect these sources. Although the area around several springs within the WHPA that supply groundwater to the City of Kent are owned by the city, much of the WHPA lies to a large extent outside the Kent city limits. The Covington Water District, which builds and maintains their water distribution infrastructure, does not own significant land area within the WHPA.

BACKGROUND INFORMATION

The Safe Drinking Water Act (SDWA), passed in 1974, and amended in 1986 and 1996, gives the U.S. Environmental Protection Agency (EPA) the authority to set drinking water standards. In most cases, the EPA delegates responsibility for implementing the drinking water standards to the states. Washington is one such state that implements these federal regulations. The EPA has set two categories of drinking water standards, the National Primary Drinking Water Standard and the National Secondary Drinking Water Standard. The primary standards set legally-enforceable levels of specific contaminants that can adversely affect public health. The secondary standards are non-enforceable guidelines that address contaminants that may cause cosmetic or aesthetic effects.

Information reviewed for this study included the EPA webpage (www.epa.gov), the Washington Administrative Code (WAC, www.leg.wa.gov/wac/) and the Revised Code of Washington (RCW, www.leg.wa.gov/rcw/). We also reviewed SPU's Watershed Protection Plan for the Cedar River Watershed, dated October 1999, and the City of Kent's Wellhead Protection Program for Clark, Kent, and Armstrong Springs, dated April 1996. Information for the Covington Water District was obtained from their web site (www.covingtonwater.com) as well as from telephone conversations with district personnel (Mike Amburgey, January 10, 2003) and their engineering consultants (Bill Reynolds, with Hammer, Wade Collier & Livingston, 2003).

The Cedar River Municipal Watershed and both the City of Kent's and the Covington Water District's WHPA are considered Community Group A water systems, defined as a water system that provides service to 15 or more connections to year-round residents for 180 days or

more. The Washington State Department of Health (DOH) has jurisdiction over Group A community water systems. Statutory authority for regulation of drinking water systems by the DOH is provided in RCW 43.20.050. The proposed transmission line will require construction and use of access roads, the temporary disturbance of surficial soil during tower installation, and periodic maintenance of vegetation. Protection of groundwater sources for drinking water is regulated by the DOH under WAC 246-290-135, while protection of unfiltered surface water sources is regulated under WAC 246-290-690.

CITY OF KENT-COVINGTON WATER DISTRICT WELLHEAD PROTECTION AREAS

The state regulations require the development of Sanitary Control Areas (SCA) around all drinking water sources. For wells and springs, the minimum diameter of a SCA is 100 feet and 200 feet, respectively. No source of contamination may be constructed, stored, disposed of, or applied within the SCA without the permission of the DOH and the water system purveyor (owner and/or operator of the water system).

Groundwater resources for the City of Kent include the Kent, Clark and Armstrong springs. Spring locations are shown on the attached Figures 1A and 1B (originally presented in the October 2002 report) and are in the vicinity of the Alternative A alignment. Covington Water District wells in the vicinity of Alternative A include two wells at 16818 SE Wax Road (referred to as the Rouse well site) near the Covington substation and Armstrong springs. These wells are currently not producing water for the district (M. Amburgey, January 10, 2003). A field that includes five production wells and one monitoring well occurs at 29025 222nd Place SE, near the Kent springs. Other Covington Water District wells in the vicinity of the Alternative A alignment include six production wells and a monitoring well at the Witte field, located at 26410 Witte Road SE, and two wells at 21765 SE 264th Street. One Covington Water District well is located in the vicinity of the C-1 and C-2 alignments at 27519 SE Kent-Kangley Road. Covington Water District well locations are shown on the attached Figures 1A and 1B. Potential impacts to the Covington Water District WHPA will be the same as those for the City of Kent's WHPA discussed in our October 2002 report.

Because the City of Kent and the Covington Water District have no jurisdiction over much of the WHPA, the WHPP does not list specific requirements for protection of the groundwater resources, but does list recommendations for increased protection, including obtaining Special Area Designations, addressing storm water impacts, and developing spill response plans. The WHPP is required to identify the locations and owners of known and potential groundwater contamination sources within the designated WHPA. Except for uses within the SCA, there are no DOH regulations regarding land use activities specific to the protection of groundwater resources for drinking water supplies. Storm water pollution prevention plans (SWPPP) that include hazardous material spill response plans would be required under EPA's National Pollutant Discharge Elimination System (NPDES). These SWPPPs are regulated by the Washington State Department of Ecology (DOE).

CITY OF SEATTLE CEDAR RIVER WATERSHED

The development and implementation of a Watershed Control Program (WSCP) for unfiltered surface water supplies is required under WAC 246-290-690. These regulations state that the purveyor must prevent water with a turbidity exceeding 5 NTUs (nephelometric turbidity units) from being delivered to consumers. The purveyor shall monitor, limit, and control all facilities and activities in the watershed affecting source quality. The purveyor must demonstrate to the DOH through ownership and/or written agreements control of all human activities that may adversely impact source quality. The WSCP must identify watershed characteristics and activities that may adversely affect source water quality. The DOH can require additional water quality monitoring and conduct on-site inspections to assess watershed control. The WSCP is to be updated at a minimum of every six years. Annual reports are to be provided to the DOH to identify special concerns in the watershed and how they are being handled, identify activities in the watershed, and project adverse activities expected to occur in the watershed and measures to address them.

The Cedar River WSCP lists potential adverse activities and whether they are present within the watershed. Timber management, including road construction and fire prevention, is listed

as an adverse activity and as present within the watershed. This activity most closely resembles construction of the transmission line, which would involve clearing a right-of-way and construction and use of roads.

The following regulations are listed in the Cedar River WSCP and specifically address measures to control activities that could adversely impact the water quality.

Portable sanitary facilities must be installed at work sites.

- ▶ Use of heavy equipment on roads can be shut down during wet weather periods to reduce sedimentation.
- ▶ Hazardous material spill cleanup plans are required. While only DOE needs to approve plans for spills that would not affect a drinking water source, both DOE and DOH must approve those plans that could.
- ▶ A written water quality protection plan approved by SPU must be in place prior to start of construction in which spills from equipment or storage containers may occur.
- ▶ Fire safety procedures must be followed.
- ▶ Monitoring the effects of land use activities could be required.

As purveyor of the Cedar River Municipal Watershed, and therefore, legally required to protect the drinking water resources, SPU has a generally broad latitude in regulating the how, where, and when of activities within the watershed. For instance, prior to conducting recent subsurface soil explorations, SPU required BPA to steam clean all drilling and support equipment to remove any noxious weed seeds and other potential contaminants, prior to using this equipment in the Cedar River Municipal Watershed. Similar procedures may be required of the construction equipment, should the line be constructed in the Watershed

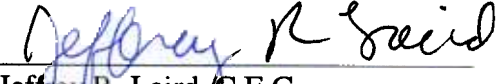
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January 16, 2003
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If we can be of further assistance, please call Chris Robertson (206 695-6763) or Jeff Laird (206 695-6892).

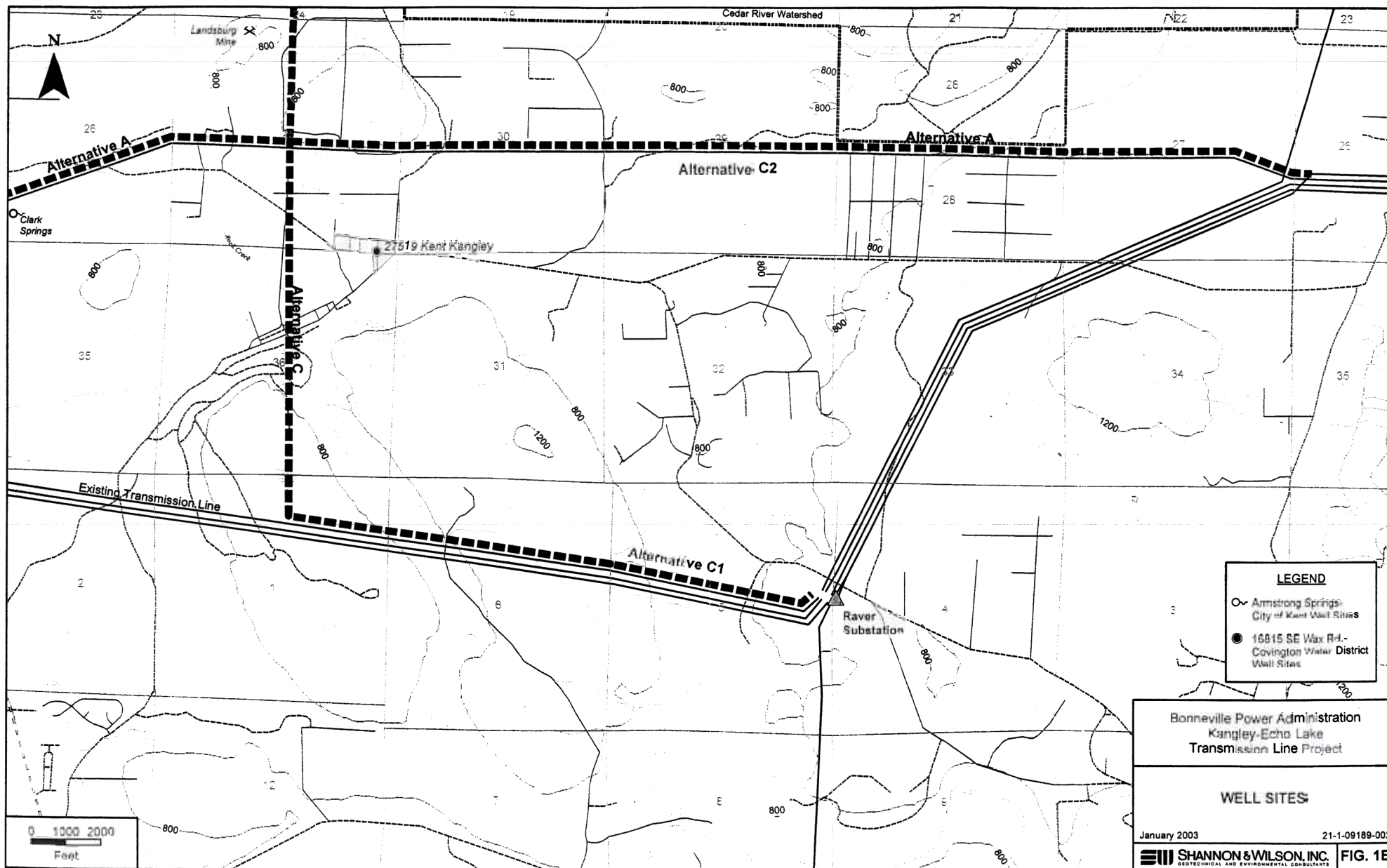
Sincerely,

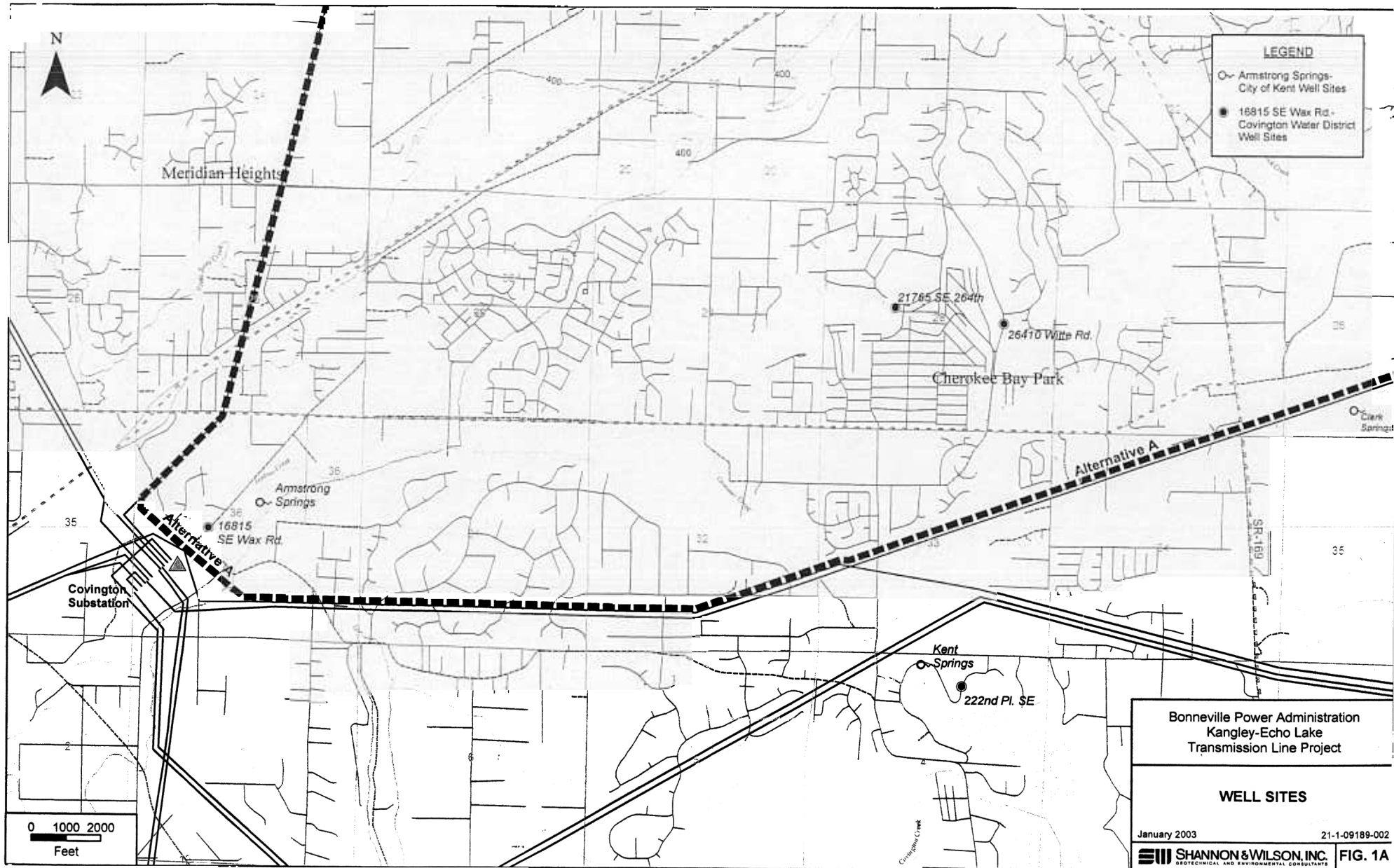
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Jeffrey R. Laird, C.E.G.
Senior Principal Engineering Geologist

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Enclosures: Figure 1A – Well Sites
Figure 1B – Well Sites





March 3, 2003

Bonneville Power Administration
905 N.E. 11th Avenue
P.O. Box 3621
Portland, Oregon 97208-3621

**RE: RESPONSE TO COMMENTS, FOOTHILLS WATER ASSOCIATION,
BONNEVILLE POWER ADMINISTRATION KANGLEY - ECHO LAKE
PROJECT, KING COUNTY, WASHINGTON**

Dear Gene:

This letter provides our response to comments from members of the Foothills Water Association (FWA). From the comments, we understand the FWA owns and operates a recently constructed drinking water system that serves 74 homes in the communities of Kangley and Selleck, located on the south side of the Cedar River. The system relies on groundwater supplies and includes two wells, a 20,000-gallon tank, a pump station, and water mains. The system replaces several older water systems that relied on surface water supplies. From our discussions with Jim Nilson of the Washington State Department of Health (DOH) and with Rick Kenney of FWA on February 26, 2003, we understand that one well was drilled in 1993 to a depth of 140 feet. The water-bearing zone was thought to be between 120 and 140 feet. The other well was drilled in 1995 to a depth of 220 feet. The casing in this well was perforated for water production between 150 and 172 feet deep.

Currently, the Bonneville Power Administration's (BPA's) transmission line easement that includes the Schultz-Raver No. 2 500-kV transmission line traverses east-west across the south end of the FWA service area. The Raver-Echo Lake 500-kV transmission line extends to the north across the northwest corner of the FWA service area. The FWA's well field is located about one block east of the current Raver-Echo Lake transmission line easement and abuts the south boundary of the Cedar River Watershed (see attached site plan).

The Alternative 1 route would tap into the Schultz-Raver No. 2 500-kV transmission line just west of Kangley and extend north along the east side of the existing Raver-Echo Lake transmission line. Alternative 1 will extend about 3,800 feet through the FWA service area and will require the acquisition of additional easement (see attached site plan). Alternative A would tap into the Schultz-Raver No. 2 500-kV transmission line just west of Kangley, near the west boundary of the FWA service area, and extend west in an existing transmission line right-of-way (ROW) just north of and parallel to the existing Covington-Columbia No. 3 230-kV transmission line (see attached site plan).

This FWA water system is a Community Group A system, defined as a water system that provides service to 15 or more connections to year-round residents for 180 days or more. The DOH has jurisdiction over Group A community water systems. Washington State regulations require a Sanitary Control Area (SCA) of 100 feet diameter around wells supplying groundwater for drinking. It appears that either Alternative 1 or A will be outside of this SCA.

The proposed transmission line will require construction and use of access roads, the temporary disturbance of surficial soil during tower installation, and periodic maintenance of vegetation. If Alternative 1 or A is constructed, a relatively small portion of the existing area that the FWA currently serves will be impacted. These impacts will be limited in intensity and area and will be primarily temporary.

Potential impacts to the groundwater supplies are discussed in our January 2001 and October 2002 technical reports. These impacts would be the same for the FWA system as for other groundwater sources for drinking water. It is unlikely that the FWA's groundwater source will be impacted by the construction or operation of the transmission line; however, spills of fuel oil, lubricants, or other hazardous materials could occur. A Stormwater Pollution Prevention Plan that will include a hazardous materials spill response plan will be required to be in place during construction. These plans typically require vehicle fueling and storage, and storage of hazardous materials, to occur away from groundwater protection areas. This plan is intended to facilitate a rapid, appropriate response to reduce or eliminate potential impacts in the unlikely

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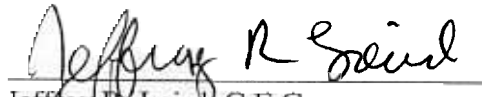
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event that a hazardous material spill occurs. State regulations regarding drinking water supplies have been summarized in a letter to BPA dated January 16, 2003.

If we can be of further assistance, please call Chris Robertson (206 695-6763) or Jeff Laird (206 695-6892).

Sincerely,

SHANNON & WILSON, INC.



Jeffrey R. Laird, C.E.G.
Senior Principal Engineering Geologist

JRL:CAR/jrl



FIG. 1